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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,077	04/14/2006	Keiichi Maeda	1163-0552PUS1	6677

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BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

BERTRAM, RYAN

ART UNIT	PAPER NUMBER
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2187

NOTIFICATION DATE	DELIVERY MODE
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06/05/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No. 10/576,077	Applicant(s) MAEDA, KEIICHI	
	Examiner RYAN BERTRAM	Art Unit 2187	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/14/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The instant application having Application No. 10/576,077 has a total of 6 claims pending in the application, there is 1 independent claim and 5 dependent claims, all of which are ready for examination by the examiner.

I. INFORMATION DISCLOSURE STATEMENT

The information disclosure statement (IDS) submitted on 4/14/2006 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

II. FOREIGN PRIORITY

Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 9/17/2004. It is noted, however, that applicant has not filed a certified copy of the Japanese application as required by 35 U.S.C. 119(b).

III. REJECTIONS BASED ON PRIOR ART

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keays (US 2003/0041210) in view of Gorobets et al. (US 2003/0165076) hereinafter Gorobets.

1. Regarding claim 1, Keays discloses 1. An information record/read apparatus comprising:

an involatile memory including a plurality of sectors which constitute part of a data recording area and are a data erasure unit **[see paragraph 42; nonvolatile memory includes block erase units, including data recording areas]**, a plurality of blocks which are formed by dividing each of the plurality of sectors and each have a data recording area and a block state management area for recording data indicating as to whether data is in an unrecorded, recording or recorded state in the data recording area **[see paragraphs 42 & 46; block erase unit broken down into sectors. Each sector having a data storage area and EBM data area indicating a status of said sector]**, and a data recording state management area for recording data indicating

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recording states of the data in all the plurality of sectors **[see paragraphs 42 & 57; RAM control tables contain data regarding the states of the erase blocks]**; and a control section for controlling **[see paragraph 42; control state machine]**, according to the record data in the data recording state management area of said involatile memory or to the record data in the block state management area and in the data recording state management area, said involatile memory **[see paragraphs 42 & 57; erase block management data is utilized in the control of the nonvolatile memory]** in a manner that reads the record data **[see paragraph 67; read command]**, collectively erases the record data on a sector by sector basis **[see paragraph 5; data is erased on an erase block basis]**, and updates the record data in the block state management area and data recording state management area in accordance with write, read or erasure of the data **[see paragraph s 72-73; block management data updated when memory is accessed]**.

Keays does not expressly disclose writing data cyclically into the data recording areas.

Gorobets discloses a nonvolatile memory system which writes data cyclically into the memory **[see paragraph 67]**.

Keays and Gorobets are analogous art because they are from the same field of endeavor, namely nonvolatile memory devices.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to utilize the teaching of Gorobets and record data cyclically in the system of Keays.

The motivation for doing so would have been to ensure that the utilization of flash blocks is uniformly distributed over a period of time **[see Gorobets, paragraph 67]**.

Therefore, it would have been obvious to combine Keays with Gorobets for the benefit of ensuring that the utilization of flash blocks is uniformly distributed over a period of time, to obtain the invention as specified in claim 1.

2. Regarding claim 2, Keays and Gorobets disclose the information record/read apparatus according to claim 1, wherein the data recording state management area, which is provided independently of the plurality of sectors, records data on numbers of blocks that record data **[see Keays, paragraph 65; state all blocks determined at initialization]**, data on the number of a block that records latest data **[see Keays, paragraph 59, most recently updated entry is noted]**, and data on the number of a data erasure target sector **[see Keays, paragraph 63, erase block table maintained]**, and wherein said control section acquires from the data recording state management area the data on the numbers of the blocks that record the data, the data on the number of the block that records the latest data, or the data on the number of the data erasure

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target sector, and carries out writing, reading and erasing data in accordance with the acquired data **[see Keays, paragraph 57; controller utilizes management data in control of the blocks of flash memory]**.

3. Regarding claim 3, Keays and Gorobets disclose the information record/read apparatus according to claim 1, wherein the data recording state management area, which is provided within an area of each of the plurality of sectors, records data indicating a data erasure state of an immediately preceding sector **[see Keays, paragraph 63, erase block table records erasure state of all blocks]**, wherein said control section calculates data on numbers of blocks that record data **[see Keays, paragraph 65; state all blocks determined at initialization]** and the number of a block that records latest data from the data recording state management area and block state management area **[see Keays, paragraph 59, most recently updated entry is noted]**, or retrieves data on the number of a data erasure target sector from the data recording state management area **[see Keays, paragraph 63, erase block table indicates erasure state for all erase blocks]**, and wherein said control section carries out writing, reading and erasing of data in accordance with the data calculated or retrieved **[see Keays, paragraph 57; controller utilizes management data in control of the blocks of flash memory]**.

4. Regarding claim 4, Keays and Gorobets disclose the information record/read apparatus according to claim 1, wherein said control section controls said involatile

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memory in a manner that erases the record data during a period of time from the data read to data write **[see Keays, paragraph 73; block must be erased before the writing of new data]**.

5. Regarding claim 5, Keays and Gorobets disclose the information record/read apparatus according to claim 1, wherein said control section controls said involatile memory in a manner that collectively erases data recorded in individual blocks of an erasure target sector after writing data in at least one of the blocks of a sector other than the erasure target sector **[see Keays, paragraph 76; after data is written to partially filled sector of the other erase block, the other block can be erased]**.

6. Regarding claim 6, Keays and Gorobets disclose the information record/read apparatus according to claim 5, wherein to carry out data recording during collective erasure of the record data in the erasure target sector, said control section controls said involatile memory in a manner that gives priority to data recording processing by interrupting the collective erasure **[see Gorobets, paragraph 82; block erasure is delayed during sector writes]**.

IV. CLOSING COMMENTS

Conclusion

(a) Status of Claims In the Application

(i) Claims Rejected In the Application

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Per the instant office action, claims 1-6 have received a first action on the merits and are subject of a first action non-final.

(b) Directions of Future Correspondences

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan Bertram whose telephone number is 571-270-1377. The examiner can normally be reached on Mon-Fri 8am-5pm ET.

Important Note

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christian Chace can be reached on 571-272-4190. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Ryan Bertram/

Examiner, Art Unit 2187

/Brian R. Peugh/

Primary Examiner, Art Unit 2187